

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) An automatic adaptive voice/data device, comprising:
a high priority transmission queue;
a low priority transmission queue;
a data rate detector to detect a data rate of a data stream from a particular source; and

a periodicity detector to detect a periodicity between data packets from said particular source;

wherein data packets are provided to said high priority transmission queue and said low priority transmission queue based on their data rate and periodicity.

2. (original) The automatic, adaptive voice/data device according to claim 1, wherein:

data packets having a data rate and periodicity each within a particular range associated with voice data are passed to said high priority transmission queue.

3. (original) The automatic, adaptive voice/data device according to claim 1, wherein:

said automatic, adaptive voice/data device is an Ethernet compliant device.

4. (original) The automatic, adaptive voice/data device according to claim 3, wherein:

 said data flow identification is based upon at least one of a source address and a destination address of said data flow.

5. (original) The automatic, adaptive voice/data device according to claim 4, wherein:

 said source address and said destination address are media access control addresses.

6. (original) The automatic, adaptive voice/data device according to claim 4, wherein:

 said source address and said destination address are Internet protocol addresses.

7. (original) The automatic, adaptive voice/data device according to claim 4, wherein:

 said source address and said destination address are transport control protocol ports.

8. (original) A method of automatically assigning a quality of service in an automatic, adaptive voice/data device, comprising:

 identifying a data flow from a particular source;

 determining a data rate of said data flow;

 determining a periodicity of a receipt of packets in said data flow;
and

 assigning a particular Quality of Service to said packets based on said data rate and periodicity.

9. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 8, wherein:

 said step of assigning assigns packets to said particular Quality of Service having a data rate and periodicity associated with a voice stream.

10. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 9, further comprising:

 tagging a packet within said data flow.

11. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 10, further comprising:

 forwarding said tagged packet within said data flow is according to said particular Quality of Service.

12. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 9, further comprising:

 identifying said data flow from said particular source is according to a source address and a destination address.

13. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 12, wherein:

 said source address and said destination address are media access control addresses.

14. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 12, wherein:

 said source address and said destination address are Internet protocol addresses.

15. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 14, wherein:

 said source address and said destination address are transport control ports.

16. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 12, further comprising:

 tagging said packet within said data flow according to a length of said packet.

17. (original) The method of automatically assigning a quality of service in an automatic, adaptive voice/data device according to claim 9, wherein said step of determining said particular Quality of Service comprises:

 calculating a time difference between a last most recent packet arrival and a current clock value.

18. (original) A method of optimizing a quality of service in an automatic, adaptive voice/data device, comprising:

identifying a high priority packet in a data flow based solely on a history of packets received from a same source;

calculating an expected next arrival time of a next high priority packet in said data flow;

determining whether a pending low priority packet will likely interfere with a transmission of said next high priority packet in said data flow; and

forwarding said high priority packet in said data flow.

19. (original) The method of optimizing a quality of service in an automatic, adaptive voice/data device according to claim 18, wherein:

said history of packets received comprises a data rate and periodicity of packets from said same source.

20. (original) The method of optimizing a quality of service in an automatic, adaptive voice/data device according to claim 18, further comprising:

calculating a completion time of said pending low priority packet.

21. (original) The method of optimizing a quality of service in an automatic, adaptive voice/data device according to claim 19, further comprising:

delaying transmission of said pending low priority packet when said completion time of said pending low priority packet exceeds said next arrival time of a next high priority packet in said data flow.

22. (original) The method of optimizing a quality of service in an automatic, adaptive voice/data device according to claim 19, further comprising:

forwarding said pending low priority packet when said next arrival time of a next high priority packet in said data flow exceeds said completion time of said pending low priority packet.